LOW LEAKAGE INPUT PROTECTION DEVICE AND SCHEME FOR ELECTROSTATIC DISCHARGE

ABSTRACT

ESD input protection device uses a transistor (82) with the source terminal (100) connected to the input (12) from these source (18) to provide an alternate path for discharge. By having the input (12) imprint connected to the source (100) rather than the drain (102) and the substrate (104) and gate (103) terminals connected to a reference so that a decrease in the leakage current (I_s) is realized as the source voltage (18) is increased over a range. The protection scheme is suitable for use with smaller device geometries such as 0.18 CMOS operating at 1 ½ to 2 volts.

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